

REMARKS

By this amendment, claims 1, 3, and 39 have been amended. Claims 1-14 and 39-46 are pending in the application. Applicants reserve the right to pursue the original claims and other claims in this and other applications.

The drawings stand objected to for allegedly not showing the claimed “conduction current.” As shown in FIG. 1 and the description thereof, two transmitting electrodes 11 are disposed at a sensor inside the human body. When a different voltage is applied to each electrode, a current from one transmitting electrode having higher electric potential flows towards the other transmitting electrode having lower electric potential through a certain passage inside the human body (i.e., the dotted line indicated by reference number 3 in FIG 1). Accordingly, Applicants respectfully request that the objection to the drawings be withdrawn and the application allowed.

Claims 1, 3-14, and 39-46 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. As shown in FIG. 1, two transmitting electrodes 11 are disposed at a sensor inside the human body. When different voltages are applied to each electrode, a current from one transmitting electrode having higher electric potential flows towards the other transmitting electrode having lower electric potential through a certain passage inside the human body (i.e., the dotted line indicated by reference number 3 in FIG 1).

Applicants respectfully request that the rejection of these claims be withdrawn and the claims allowed.

Claims 1, 3-6, 13, 39, and 43 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Brockway et al. (US 2002/0138009). This rejection is respectfully traversed.

Claim 1 recites a method for data communication in the human body comprising, *inter alia*, “switching the transmitting electrodes according to information to be transmitted, such that: a positive is represented as first state when the first transmitting electrode has a higher electric potential and the second transmitting electrode has a lower electric potential; and a negative is represented as a second state when first transmitting electrode having a lower electric potential and second transmitting electrode has a higher electric potential” (emphasis added). Claims 3 and 39 recite similar features. Applicants respectfully submit that Brockway et al. does not disclose at least these features.

To the contrary, Brockway et al. discloses a wireless communication method “intracorporeal conductive communication” (also referred to as “near field intrabody communication” or a “personal area network”). This wireless communication uses a living organism as a conductor, as in the presently claimed invention. However in the present invention, the current flowing through the living organism(human body) is “condition current” whilst Brockway et al. discloses the use of “a displacement current.” See Brockway et al., ¶ [0053], ln. 53. Applicants respectfully submit that Brockway et al. does not disclose, teach, or suggest at least “switching the transmitting electrodes according to information to be transmitted, such that:

a positive is represented as first state when the first transmitting electrode has a higher electric potential and the second transmitting electrode has a lower electric potential; and a negative is represented as a second state when first transmitting electrode having a lower electric potential and second transmitting electrode has a higher electric potential,” as recited in claims 1, 3, and 39.

The term conduction current denotes a current by the movement of free electrons in a conductor. However the term “displacement current” does not refer to a real current (i.e., movement of electrons). This quantity is found to be proportional to the time derivative of the electric field and has an associated magnetic field. The present day concept of displacement current therefore simply refers to the fact that change in electric field has an associated magnetic field. Accordingly, it is clear that the communication according to Brockway et al. applies a different fundamental principle of physics than the communication according to the present invention. One electrode is attached on the surface of the human body and the other electrode acts as an antenna in intracorporeal conductive communication. Accordingly, only when the ground acts as an earth can the signal be transmitted. One skilled in the art would understand that the ground cannot have a higher electric potential, by definition.

Since Brockway et al. does not disclose all of the features of claims 1, 3, and 39, claims 1, 3, and 39 are not anticipated by Brockway et al. Claims 4-6, 13, and 43 depend, respectively, from independent claims 1 and 3, and are patentable at least for the reasons mentioned above, and on their own merits. Applicants respectfully request that the 35 U.S.C. § 102(b) rejection of claims 1, 3-6, 13, 39, and 43 be withdrawn and the claims allowed.

Claims 7-10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Brockway et al. This rejection is respectfully traversed. Claims 7-10 depend, respectively, from independent claims 1 and 3, and are patentable at least for the reasons mentioned above, and on their own merits. Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of claims 7-10 be withdrawn and the claims allowed.

Claims 11-12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Brockway et al. in view of Bashiri et al. (US 6,165,178). This rejection is respectfully traversed. Claims 11-12 depend from independent claim 3 and are patentable at least for the reasons mentioned above, and on their own merits. Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of claims 11-12 be withdrawn and the claims allowed.

Claim 14 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Brockway et al. in view of Yoshioka et al. (US 5,651,869). This rejection is respectfully traversed. Claim 14 depends from independent claim 3 and is patentable at least for the reasons mentioned above, and on its own merits. Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of claim 14 be withdrawn and the claim allowed.

Claims 41-42 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Brockway et al. in view of Holmes et al. (US 4,267,415). This rejection is respectfully traversed. Claims 41-42 depend from independent claim 39 and are patentable at least for the reasons

mentioned above, and on their own merits. Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of claims 41-42 be withdrawn and the claims allowed.

It is respectfully submitted that a full and complete response has been made to the outstanding Office Action and, as such, there being no other objections or rejections, this application is in condition for allowance, and a notice to this effect is earnestly solicited. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided below.

Respectfully submitted,

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